RESEARCH NOTE

Self-Reported Counterproductive Behaviors and Organizational Citizenship Behaviors: Separate but Related Constructs

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The construct validity of self-reported counterproductive work behaviors (CPBs) and organizational citizenship behaviors (OCBs) was explored by separating item content from item wording, through the confirmatory factor analysis of three scales: a CPB scale containing only negatively worded items, an OCB scale with only positively worded items, and the supervision subscale of the Job Descriptive Index (JDI) (Smith, Kendall and Hulin 1969) comprised of both negatively and positively worded items. Results (N = 475) suggest that self-report measures of CPBs and OCBs are affected by method variance, but that the presence of such an influence does not compromise the substantive interpretation of these scales. Consequently, these scales do appear to be unique constructs.

Introduction

Two areas of considerable conceptual and practical interest to organizations are counterproductive behaviors (CPBs) and organizational citizenship behaviors (OCBs). Ever since Bateman and Organ (1983) outlined OCBs as discretionary or extra-role behaviors that are not formally tied to the organizational reward system and that have positive effects on organizational functioning, organizational citizenship behaviors have received substantial attention in the literature (e.g. Podsakoff, Ahearne and MacKenzie 1997). While organizations' survival and health have always relied on employees who were willing to go beyond the minimal demands placed on them, this need is even more pronounced now, with the changing nature of the work, and the increased quantitative and qualitative demands that have been placed on employees during the past decade (Barling 1999). In contrast to organizational citizenship behaviors, counterproductive behaviors involve deliberate actions by individuals to violate central organizational policies, rules, and procedures. By doing so, these actions harm the organization and its members (Robinson and Bennett 1995). CPBs vary in severity, and can involve both acts of commission and omission, such as deliberately not passing on telephone messages, stealing from the organization, gossiping about its leaders or acts of psychological or physical aggression.

To date, CPBs and OCBs have been treated as separate constructs. Despite this, there are sufficient reasons to question whether construct and item overlap minimize the extent to which they are empirically separable. First, the argument can be made that there is substantial content overlap between organizational citizenship and counterproductive behaviors, and that these two dimensions simply reflect opposite ends of the same continuum, namely, role performance within the organization. For example, the conscientiousness dimension of OCB involves behaviors that exceed the minimum levels required by the job. Conversely, the production deviance

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component of counterproductive behavior comprises behaviors which go against organizational norms delineating the minimal requirements for work quality and quantity. Both definitions describe aspects of role performance; the first positive (i.e. suprarole performance), the second negative (i.e. subrole performance). On an interpersonal level, the altruism aspect of OCBs reflects behaviors aimed at helping other employees. In contrast, the political deviance and personal aggression components of counterproductive behaviors are concerned with behaviors intended to harm other employees and/or the organization (Robinson and Bennett 1995). Again, both definitions describe types of interpersonal conduct; the first positive, the second negative.

There is also some degree of item overlap in currently available measures of OCBs and CPBs. For example, in their OCB scale, Smith, Organ and Near (1983) include items such as 'volunteers to do things not formally required by the job' and 'helps others when their work load increases' to reflect suprarole performance. In contrast, Robinson and Bennett (1995) include 'employee hiding in back room to read the newspaper' in their list of deviant behaviors to reflect subrole performance. Consequently, given the potential definitional and measurement overlap between OCBs and CPBs, it seems plausible that they may constitute opposite ends of a single continuum, namely, the construct of role behaviors.

The direction of the item wording of these constructs leads to further questioning about the extent to which OCBs and CPBs measure separate constructs. These concerns may be heightened when single source data (frequently self-report) is used to assess the constructs of interest. Most of the items on OCB scales are designed to reflect positive workplace behaviors (Bateman and Organ 1983; Podsakoff *et al*. 1997; Podsakoff, MacKenzie, Moorman and Fetter 1990; Smith, Organ and Near 1983; Van Dyne, Graham and Dienesch 1994), while items on CPB scales appear to be exclusively designed to reflect negative workplace behaviors (Hollinger and Clark 1982; Mangione and Quinn 1975; Robinson and Bennett 1995; Robinson and O'Leary-Kelly 1998). As a result, the substantive interpretation of these two constructs may be confounded with the direction of item wording (Kelloway and Barling 1990; McGee, Ferguson and Steers 1989), again calling into question the validity of OCBs and CPBs as discrete constructs.

Consequently, using a technique similar to that outlined by Kelloway and Barling (1990), we addressed the construct validity of counterproductive behaviors and organizational citizenship behaviors using confirmatory factor analysis of three scales: a CPB scale, an OCB scale, and the 18-item supervision subscale of the Job Descriptive Index (JDI) (Smith, Kendall and Hulin 1969). This third scale was included in our analysis for two critical reasons. First, it would not be possible to separate item wording and item content using only the organizational citizenship and counterproductive behavior scales as item content is almost perfectly confounded with item wording. Conversely, the supervision satisfaction scale comprises ten positively worded items and eight negatively worded items measuring satisfaction with supervision, thereby allowing a separation of item content from item wording.

A second reason for including supervision satisfaction is that it is conceptually separate from, but empirically associated with both OCBs (Bateman and Organ 1983; Smith *et al*. 1983) and CPBs (Greenberg 1990). Consequently, in addition to being empirically distinct from both OCBs and CPBs, we predict that OCBs should be positively associated with supervision satisfaction, while CPBs should be negatively associated with supervision satisfaction.

Following the analytic strategy outlined by Kelloway and Barling (1990), our analyses of the OCB and CPB scales was achieved by comparing the goodness of fit of four rival models using confirmatory factor analysis. The first model incorporated a single factor on which all items were predicted to load and reflected a baseline against which the other models could be evaluated. Substantively, the one factor model represents the suggestion that individuals make a global evaluation when making ratings of their satisfaction, OCBs and CPBs. The second model comprised two oblique factors. All of the positively worded items were hypothesized to load on the first factor with all negatively worded items loading on the second factor. Substantively, the two-factor model is based on the suggestion that the observed covariances between individual items are entirely a function of the direction of item wording. The third model consisted of three oblique factors and was consistent with the notion that the expression of citizenship behaviors, counterproductive behaviors, and supervision satisfaction are distinct but related constructs. Finally, the fourth model reflected the notion that in addition to the three substantive (and oblique) factors there was a methodological confound between item wording and item content (Kelloway and Barling 1990). This consisted of four oblique factors: the three substantive factors (i.e. counterproductive behaviors, organizational citizenship behaviors, and supervision satisfaction) and a fourth, orthogonal, 'method factor' comprised of only negatively worded items.

Method

Design and Procedure

Data were collected as part of a larger workplace study. Questionnaires were sent via internal mail to approximately 1300 employees of a large Canadian public institution. In total, 475 respondents returned usable questionnaires with complete data. Participants were told

that the research was focusing on the work experiences of employees, and anonymity and confidentiality were assured. All individuals receiving questionnaires were thanked for their time and a packaged teabag was attached to each survey in appreciation.

Participants

Approximately half of the respondents were in clerical and secretarial positions, another third were comprised of individuals in managerial or lower to mid-level administrative jobs (e.g. public relations, marketing positions, or research and development based jobs), the remainder of the employees worked in blue-collar/trade, technical, or upper-level administrative jobs.

In terms of work schedules, 72% worked in full-time positions (N = 343) and 28% worked in either part-time or contract positions (N = 132). In the full-time group, the average participant was 40.5 years old (71% female) and worked approximately 38.5 hours per week. In the part-time/contract group, the average participant was 39.81 years old (87% female) and worked approximately 32 hours per week.

Measures

Organizational citizenship behaviors. Nine items from Smith *et al*.'s (1983) OCB scale were used in this study (see Appendix for items). Because this data was collected as part of a larger study and the number of items used from each scale had to be limited, full scales were not used. Given that we are interested in the direction of item wording (i.e. the influence of all positively worded versus negatively worded items in the scales), we tried to avoid items also having very similar content in both scales (e.g. 'not coasting towards the end of the day' overlaps with 'intentionally worked slow' and thus was not used). All items were modified from the third person to the first person to correspond with the self-report nature of the questionnaire. Respondents used a five-point Likert scale (1 = 'not at all characteristic' and 5 = 'very characteristic') to indicate the extent to which each item was characteristic of oneself. All of the items in this scale were positively worded. The scale alpha for the shortened version of this scale was .74.

Counterproductive behaviors. Ten items modified from Robinson and Bennett's (1995) list of deviant workplace behaviors were used to assess interpersonal and organizational counterproductive behaviors (again corresponding with the self-report nature of the questionnaire; see Appendix). Respondents were asked to indicate how often they had engaged in each of the listed behaviors (e.g. 'gossiped about your co-worker', 'took company equipment or merchandise') on a five-point Likert scale ranging from 1 ('never') to 5 ('very often'). All of the items in this scale were negatively worded. The scale alpha was .72.

Satisfaction with supervision. The supervision subscale of the Job Descriptive Index (JDI) (Smith, Kendall and Hulin 1969) was used to assess supervision satisfaction. Respondents indicated whether the 18 adjectives and phrases (e.g. 'intelligent' and 'hard to please') described their supervisor by writing 'yes', 'no' or 'uncertain' beside each. The scale consisted of ten positively worded and eight negatively worded items. The scale alpha was .88.

Data Analysis

We estimated four confirmatory factor analytic models. First, a model was estimated positing one factor on which all items were hypothesized to load. Second, a two-factor model with factors representing positively and negatively worded items was estimated. Third, a three-factor model with loadings corresponding to the substantive definitions of the scales was estimated. Finally, a four-factor model was estimated. The four-factor model comprised the three substantive factors and a 'method factor' (i.e. a factor on which only the negatively worded items were allowed to load). To allow for the identification of the model, the method factor was constrained to be orthogonal to the substantive factors (Kelloway and Barling 1990). All other factors were allowed to correlate with one another.

All model tests were based on the covariance matrix and used maximum likelihood estimation as implemented in LISREL VIII (Jöreskog and Sörbom 1992). Model fit was assessed by a χ^2 test with a non-significant test indicating a good fit to the data. However, because non-significant test values are rarely obtained in confirmatory factor analysis (Kelloway 1998) we also considered other fit indices. Specifically, we evaluated model fit by calculating the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI), the normed fit index (NFI), the parsimonious normed fit index (PNFI), the comparative fit index (CFI) and the Root Mean Squared Error of Approximation (RMSEA). With the exception of the RMSEA, all of these indices range between zero and one with values approaching unity indicating a better fit to the data. For the RMSEA, values approaching zero and, more specifically, less than or equal to .05 are typically interpreted as indicating an acceptable level of fit to the data. Finally, because the models estimated stand in nested sequence, it was possible to compare the relative fit of the models through use of the $\chi^2_{\text{difference}}$ test.

Results

Descriptive statistics and inter-correlations for all study variables are presented in Table 1. Fit indices for the four

Table 1. Descriptive statistics and intercorrelations for all study variables

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1	Satisfaction 1	2.45	1.16											
2	Satisfaction 2	2.27	1.25	.35										
3	Satisfaction 3	2.49	1.09	.39	.40									
4	Satisfaction 4	2.19	1.30	.38	.30	.42								
5	Satisfaction 5	2.05	1.32	.41	.44	.56	.47							
6	Satisfaction 6	2.04	1.31	.43	.20	.25	.31	.35						
7	Satisfaction 7	2.31	1.23	.23	.32	.40	.30	.39	.47					
8	Satisfaction 8	2.13	1.30	.24	.19	.36	.28	.24	.18	.35				
9	Satisfaction 9	2.38	1.18	.25	.40	.45	.21	.40	.11	.23	.18			
10	Satisfaction 10	1.90	1.42	.34	.15	.26	.40	.27	.30	.35	.21	.06		
11	Satisfaction 11	2.27	1.25	.32	.43	.52	.41	.54	.29	.45	.29	.40	.28	
12	Satisfaction 12	1.97	1.37	.26	.54	.40	.35	.44	.25	.31	.24	.39	.19	.54
13	Satisfaction 13	2.17	1.29	.22	.26	.38	.33	.31	.36	.47	.25	.19	.22	.35
14	Satisfaction 14	2.65	1.32	.46	.38	.43	.44	.44	.38	.39	.32	.32	.32	.53
15	Satisfaction 15	2.70	1.31	.28	.29	.51	.36	.38	.26	.36	.30	.33	.20	.38
16	Satisfaction 16	2.78	1.23	.25	.28	.15	.10	.27	.05	.03	−.06	.34	.02	.29
17	Satisfaction 17	2.18	1.30	.34	.36	.32	.34	.32	.30	.35	.24	.23	.25	.36
18	Satisfaction 18	2.72	.81	.24	.21	.44	.31	.39	.39	.38	.32	.13	.18	.31
19	OCB 1	4.02	1.13	−.11	.07	.00	.04	.00	−.02	.03	−.07	.03	−.05	−.04
20	OCB 2	4.13	.98	.04	−.05	.09	.19	.11	.01	.02	−.03	−.03	.03	.03
21	OCB 3	3.79	1.05	.00	−.05	−.01	.09	.01	−.02	−.02	.09	−.13	.00	−.03
22	OCB 4	4.13	0.92	−.04	−.02	.08	.14	.07	.07	.04	.06	−.00	.06	.02
23	OCB 5	3.95	1.07	.21	.04	.15	.20	.14	.23	.15	.06	−.04	.17	.11
24	OCB 6	3.93	1.04	.14	−.01	.08	.10	.08	.13	.03	.06	−.01	.11	−.00
25	OCB 7	3.96	1.17	−.05	.10	.06	.09	.09	−.00	.06	.09	.04	.05	.02
26	OCB 8	3.41	1.41	.05	−.07	.08	.02	.03	.07	.09	.03	.03	.07	−.06
27	OCB 9	4.51	0.75	.01	.09	.06	.07	.01	.16	.08	.02	−.01	.10	.03
28	CPB 1	1.25	0.53	−.06	−.14	−.07	−.10	−.02	−.09	−.03	−.05	−.10	−.07	−.07
29	CPB 2	1.17	0.45	−.07	−.15	−.18	−.17	−.09	−.15	−.19	−.15	−.14	−.24	−.17
30	CPB 3	2.06	0.79	−.04	.03	.15	.09	.11	−.19	−.26	.22	.01	−.10	−.08
31	CPB 4	1.45	0.63	−.13	−.09	.08	−.06	−.14	−.09	−.01	−.03	−.03	−.11	−.09
32	CPB 5	1.24	0.51	−.12	−.26	−.06	−.10	−.13	−.15	−.07	−.02	−.14	−.13	−.11
33	CPB 6	1.88	0.97	−.25	−.27	−.34	−.29	−.37	−.36	−.41	−.21	−.22	−.23	−.42
34	CPB 7	1.23	0.58	−.15	−.13	−.24	−.13	−.20	−.13	−.13	−.14	−.16	−.14	−.17
35	CPB 8	1.13	0.36	−.04	.01	−.03	−.04	.00	−.07	−.00	.01	−.08	−.04	−.08
36	CPB 9	1.10	0.33	−.02	−.09	−.05	−.00	−.02	−.01	−.05	.01	−.11	−.04	−.07
37	CPB 10	1.24	0.58	−.05	−.02	−.17	−.12	−.05	−.17	−.14	−.11	−.11	−.05	−.18

	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
12 Satisfaction 12															
13 Satisfaction 13	.25														
14 Satisfaction 14	.43	.38													
15 Satisfaction 15	.30	.39	.51												
16 Satisfaction 16	.14	.03	.13	.10											
17 Satisfaction 17	.29	.30	.32	.36	.01										
18 Satisfaction 18	.24	.40	.47	.44	.02	.33									
19 OCB 1	−.04	.02	.07	.03	.03	.08	.04								
20 OCB 2	−.03	.13	.04	−.06	.12	−.00	.14	.49							
21 OCB 3	−.04	−.03	−.10	.04	−.03	−.08	−.00	.40	.43						
22 OCB 4	−.04	−.00	−.04	.18	.07	.02	.08	.61	.39	.41					
23 OCB 5	.03	.18	.09	.06	−.01	.20	.26	.29	.47	.32	.46				
24 OCB 6	−.03	.07	−.02	.02	.01	.06	.06	.26	.39	.43	.28	.51			
25 OCB 7	−.00	.04	−.02	−.02	−.00	.03	.02	.28	.06	.18	.25	.12	.05		
26 OCB 8	−.03	.04	−.00	.10	−.08	−.01	.09	.06	.18	.23	.11	.22	.28	.06	
27 OCB 9	.04	.12	.03	−.10	.03	.12	.08	.08	.14	.06	.21	.24	.07	.18	.12
28 CPB 1	−.11	−.15	−.09	−.15	−.16	−.06	−.06	−.14	−.07	−.03	−.20	−.11	−.10	−.18	−.02
29 CPB 2	−.14	−.10	−.15	.12	−.09	−.13	−.15	−.15	−.11	−.16	−.25	−.25	−.16	−.18	−.12
30 CPB 3	−.11	−.13	.09	−.15	.02	.10	.09	.11	.05	−.03	−.13	−.19	−.13	.20	−.12
31 CPB 4	−.00	−.09	−.04	−.06	−.17	−.11	−.09	−.01	−.05	.14	−.09	−.16	−.11	−.12	−.11
32 CPB 5	−.21	−.05	−.10	−.32	−.11	−.21	.05	.05	.11	−.03	.04	−.01	−.01	−.12	−.07
33 CPB 6	−.33	−.36	−.35	−.26	−.07	−.31	−.33	.03	−.00	.03	−.04	−.18	−.07	−.07	−.07
34 CPB 7	−.16	−.21	−.24	−.04	−.09	−.07	−.28	−.01	−.14	.06	−.12	−.15	−.11	−.09	−.10
35 CPB 8	−.06	.04	.00	−.02	−.03	−.04	−.01	−.08	−.00	−.06	−.11	−.05	−.07	−.01	−.03
36 CPB 9	−.13	−.03	−.00	−.02	−.04	−.15	−.07	−.04	−.03	−.09	−.04	−.10	−.11	−.11	−.02
37 CPB 10	−.05	−.18	−.16	−.21	−.09	−.02	−.28	−.09	−.18	−.17	−.13	−.20	−.18	−.12	−.17

	27	28	29	30	31	32	33	34	35	36
27 OCB 9										
28 CPB 1	−.33									
29 CPB 2	−.23	.38								
30 CPB 3	.22	.22	.34							
31 CPB 4	−.24	.35	.19	.22						
32 CPB 5	−.25	.32	.21	.28	.40					
33 CPB 6	−.13	.30	.30	.52	.30	.32				
34 CPB 7	−.12	.28	.31	.14	.40	.26	.22			
35 CPB 8	−.16	.29	.18	.10	.30	.17	.13	.29		
36 CPB 9	−.13	.14	.31	.25	.26	.44	.20	.29	.29	
37 CPB 10	−.23	.31	.38	.17	.21	.12	.17	.42	.25	.27

Table 2. Fit indices for the confirmatory factor analyses

Model	χ^2	df	GFI	AGFI	NFI	PNFI	CFI	RMSEA
One factor	1912.03*	629	.63	.59	.42	.41	.53	.09
Two factor	1896.30*	628	.63	.59	.44	.41	.53	.09
Three factor	12447.11*	626	.78	.75	.63	.59	.77	.06
Four factor	1137.52*	608	.80	.77	.66	.60	.80	.06

Note: * = $p < .01$

models are presented in Table 2. The four-factor model provided the best fit to the data. Most importantly, the four factor model provided a significantly better fit to the data than either the one factor ($\chi^2_{\text{difference}}$ (21) = 774.51, $p < .01$) or the three factor ($\chi^2_{\text{difference}}$ (18) = 106.59, $p < .01$) models. The four factor model also provided a better level of fit to the data than did the two factor model, however, these models do not stand in nested sequence making the use of the $\chi^2_{\text{difference}}$ test inappropriate. Because a better fitting model is always obtained when more parameters are estimated (Kelloway 1998), it is important to note that the four-factor model also provided the best parsimonious fit (PNFI = .60) to the data.

Standardized parameter estimates for the four-factor model are presented in Table 3. Although the fit indices indicated that the addition of a method factor provided a significantly better fit to the data, it is important to note that parameter estimates for the substantive factor loadings are all significant ($p < .01$), indicating that the influence of method variance does not distort the construct validity of the scales.

Although these results support our suggestions, we also note that none of the models tested provide an acceptable level of absolute fit to the data and that this finding is common in item-level confirmatory factor analyses (Kelloway 1998). Inspection of the residuals, modification indices and variance accounted for, suggested that items from both the JDI subscale (e.g. item #16) and the OCB scale (e.g. items #7, 8, 9) are not well explained by the proposed factor structure. Although we did not undertake exploratory analyses of our data, these observations suggest that more elaborate factor structures might provide a better fit to the data.

Inspection of the correlations between latent variables showed that OCBs and CPBs shared a significant negative association ($r = -.20$, $p < .01$). As predicted, a significant negative association was also found between CPBs and satisfaction ($r = -.40$, $p < .01$) but the relationship between OCBs and satisfaction was not significant ($r = .14$, n.s.).

Discussion

The aim of this study was to explore the construct validity of CPBs and OCBs by separating their item content from their item wording using confirmatory factor analysis. Our results revealed that a four-factor model, specifying three substantive factors (CPBs, OCBs, and supervision satisfaction) and a method factor, produced a significantly better fit and more parsimonious fit to the data than either the one factor, two factor, or three factor models. An examination of the item loadings in Table 2 further illustrates the meaning of the factor structure. First, because all the parameter loadings for the three substantive factors were significant, we can conclude that self-reported CPBs and OCBs are indeed separate constructs. Therefore, while CPBs and OCBs are negatively correlated, they do appear to reflect unique constructs. Second, the magnitude of the item loadings on the method (fourth) factor were considerably lower, and not all were statistically significant. Consequently, the presence of method variance does not appear to compromise the substantive interpretation of these scales.

These findings have important conceptual and methodological implications, indicating that it is appropriate for researchers to continue to treat self-reported CPBs and OCBs as distinct constructs. This is important, because a large body of knowledge rests on the notion that these are in fact distinct constructs, and increasingly these measures are being used in organizational surveys. Significant implications would emerge for the integrity of knowledge obtained on self-reported CPBs and OCBs if they merely reflected opposite ends of a single continuum reflecting role behaviors.

However, the findings do raise important measurement questions. Although the method factor does not distort the validity of these constructs, some need for further measurement refinement remains. It is important to note that although all items loaded significantly on their corresponding substantive factor, several of the negatively worded items also loaded significantly on the method factor. To avoid having to contend with a method factor in the future, researchers should ensure that self-reported CPBs and OCBs are not solely defined by either positively or negatively worded items during scale development. Instead, scales reflecting these constructs should incorporate the same number of positively and negatively worded items (Kelloway and Barling 1990) whenever possible.

Table 3 Standardized parameter estimates for the four factor model

Item	Satisfaction	OCB	CPB	Method	R^2
Superv. Satisf 1	.54*				.29
Superv. Satisf 2	.58*			−.42	.51
Superv. Satisf 3	.71*			−.01	.51
Superv. Satisf 4	.60*				.36
Superv. Satisf 5	.69*				.48
Superv. Satisf 6	.51*				.26
Superv. Satisf 7	.61*				.37
Superv. Satisf 8	.44*			−.13*	.21
Superv. Satisf 9	.49*			.27*	.31
Superv. Satisf 10	.41*				.17
Superv. Satisf 11	.71*			.17*	.53
Superv. Satisf 12	.60*			.38*	..50
Superv. Satisf 13	.55*				.30
Superv. Satisf 14	.71*			−.02	.50
Superv. Satisf 15	.62*				.39
Superv. Satisf 16	.22*				.05
Superv. Satisf 17	.52*				.27
Superv. Satisf 18	.59*			−.37*	.48
OCB 1		.64*			.41
OCB 2		.66*			.44
OCB 3		.60*			.37
OCB 4		.69*			.48
OCB 5		.65*			.43
OCB 6		.56*			.32
OCB 7		.27*			.07
OCB 8		.27*			.08
OCB 9		.25*			.06
CPB 1			.55	−.12	.32
CPB 2			.57	.00	.33
CPB 3			.48	−.04	.23
CPB 4			.54	−.09	.30
CPB 5			.52	−.44	.46
CPB 6			.55	−.09	.31
CPB 7			.58	.08	.34
CPB 8			.40	−.06	.16
CPB 9			.50	−.20*	.30
CPB 10			.54	−.23*	.34

Note: * $p < .01$

In terms of study limitations, our findings are necessarily limited to the items used to measure OCBs and CPBs in this particular study, and although these scales had good reliability values, generalizability to other scales measuring these two constructs is premature. In separating item content from item wording we attempted not to overlap items sharing very similar content, however, this resulted in more 'conscientiousness' items than 'altruism' items being eliminated from the OCB scale. If more 'conscientiousness' items had been retained (increasing item content overlap between the scales), it is possible that OCB and CPB scales would have been less distinct. This is an empirical issue for future research to address. Second, there has been concern that impression management fulfils a critical role in organizational citizenship behaviors (Bolino 1999) and because all our data were self-reported, mono-method bias is always a concern. Fortunately, because a four-factor model provided the best and most parsimonious fit to the data (versus a one-factor model), the threat of mono-method bias is rendered less plausible. Finally, it should be noted that approximately three-quarters of our sample were women. In terms of measuring CPBs, it seems reasonable to expect that

gender differences could occur in the experience and display of anger (an emotion believed to drive CPBs). This is not likely to be an issue in this study because we only measured indirect forms of aggression (as do most CPB scales because direct acts of aggression are so rare), and no gender differences have been found in terms of indirect aggression when studied in other contexts (Pakaslahti and Keltikangas-Jaervinen 2000). However, it should be noted that if scales measuring more severe physical types of CPBs were used (e.g. assaulting a co-worker), we would likely see strong gender effects (with males being much more likely to be involved in physical aggression). The extent to which gender plays a role in CPBs or OCBs in the workplace is yet to be determined, however, the way these constructs are measured will be of importance in this regard and should be considered in future research.

In terms of future research, given the increasing diversity of workforces worldwide it will be useful for studies in this area to consider diverse samples of workers. To our knowledge, there has been no research directly studying the impact of demographic variables such as race or gender on CPBs or OCBs in the workplace. If we consider research on race and a related construct (job satisfaction; Kaye, Alexander and Kauffman 1999), it would suggest that race may directly predict the reporting of these constructs, or that being 'mismatched' within a given context (e.g. a member of a racial minority; Mueller, Finley, Iverson and Price 1999) may predict them. Interestingly, in contrast, other research now argues that race is no longer a significant predictor of outcomes, as these are more influenced by deep-level (i.e. attitudinal) diversity than surface-level (i.e. race or gender) diversity (Harrison, Price and Bell 1998). Future research will want to consider the degree to which these variables are relevant in predicting CPBs and OCBs, it may also want to consider the degree to which variables such as socio-economic status or the types of jobs individuals are performing (e.g. part-time versus full-time) are related to these constructs.

In conclusion, the findings of this study indicate that self-reported CPBs and OCBs are indeed separate, but related constructs. Assuming these findings are replicated using different items to measure these constructs and on different samples, future research will continue to benefit from focusing on the separate nature, antecedents, and consequences of these two constructs in workplaces around the world.

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Appendix: Items comprising the OCB and CPB measures.

OCB

1. Helping other employees with their work when they have been absent.
2. Volunteering to do things not formally required by the job.
3. Taking the initiative to orient new employees to the department even though it is not part of my job description.
4. Helping others when their work load increases (assisting others until they get over the hurdles).
5. Assisting supervisor with his/her duties.
6. Making innovative suggestions to improve the overall quality of the department.
7. Punctuality in arriving at work on time in the morning, and after lunch and breaks.
8. Exhibiting attendance at work beyond the norm, for example I take less days off than most individuals or less than allowed.
9. Giving advance notice if unable to come to work.

CPB

1. Exaggerated about your hours worked.
2. Started negative rumors about your company.
3. Gossiped about your coworkers.
4. Covered up your mistakes.
5. Competed with your coworkers in an unproductive way.
6. Gossiped about your supervisor.
7. Stayed out of sight to avoid work.
8. Taken company equipment or merchandise.
9. Blamed your coworkers for your mistakes.
10. Intentionally worked slow.

References

Barling, J. (1999) Changing employment relations: Empirical data, social perspectives and policy options. In D.B. Knight and A. Joseph (eds.) *Restructuring Societies: Insights from the Social Sciences*. Ottawa, Ontario: Carlton University Press.

Bateman, T.S. and Organ, D.W. (1983) Job satisfaction and the good soldier: The relationship between affect and employee 'citizenship'. *Academy of Management Journal*, **26**, 587–595.

Bolino, M. (1999) Citizenship and impression management: Good soldiers or good actors? *Academy of Management Review*, **24**, 82–98.

Greenberg, J. (1990) Employee theft as a reaction to

underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology*, **75**, 561–568.

Harrison, D.A., Price, K.H. and Bell, M.P. (1998) Beyond relational demography: Time and the effects of surface and deep-level diversity on work group cohesion. *Academy of Management Journal*, **41**, 96–107.

Hollinger, R.C. and Clark, J.P. (1982) Formal and informal social controls of employee deviance. *The Sociological Quarterly*, **23**, 333–343.

Jöreskog, K.G. and Sörbom, D. (1992) *LISREL VIII: Analysis of Linear Structural Relations*. Mooresville, IN: Scientific Softward.

Kaye, L., Alexander, L.B. and Kauffman, S. (1999) Factors contributing to job quality and satisfaction among ethnically diverse, lower income, elderly part-timers. *Journal of Gerontological Social Work*, **31**, 143–166.

Kelloway, E.K. (1998) *Using LISREL for Structural Equation Modeling: A Researcher's Guide*. Thousand Oaks, CA: Sage.

Kelloway, E.K. and Barling, J. (1990) Item content versus item wording: Disentangling role conflict and role ambiguity. *Journal of Applied Psychology*, **75**, 738–742.

Mangione, T.W. and Quinn, R.P. (1975) Job satisfaction, counterproductive behaviour, and drug use at work. *Journal of Applied Psychology*, **60**, 114–116.

McGee, G.W., Ferguson, C.E. and Steers, A. (1989) Role conflict and role ambiguity: Do the scales measure these two constructs? *Journal of Applied Psychology*, **74**, 815–818.

Mueller, C., Finley, A., Iverson, R.D. and Price, J.L. (1999) The effects of group racial composition on job satisfaction, organizational commitment, and career commitment: The case of teachers. *Work and Occupations*, **26**, 187–219.

Organ, D.W. (1988) *Organizational Citizenship Behaviour: The Good Soldier Syndrome*. Lexington, MA: Lexington.

Pakaslahti, L. and Keltikangas-Jaervinen, L. (2000) Comparison of peer, teacher and self-assessments on adolescent direct and indirect aggression. *Educational Psychology*, **20**, 177–190.

Podsakoff, P.M., Ahearne, M. and MacKenzie, S.B. (1997) Organizational citizenship and the quantity and quality of work group performance. *Journal of Applied Psychology*, **82**, 262–270.

Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H. and Fetter, R. (1990) Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly*, **1**, 107–142.

Robinson, S.L. and Bennett, R.J. (1995) A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, **38**, 555–572.

Robinson, S.L. and O'Leary-Kelly, A.M. (1998) Monkey see, monkey do: The influence of work groups on the antisocial behaviour of employees. *Academy of Management Journal*, **41**, 658–672.

Smith, P.C., Kendall, L.M. and Hulin, C.L. (1969) *The Measurement of Satisfaction in Work and Retirement: A Strategy for the Study of Attitudes*. Chicago: Rand McNally

Smith, C.A., Organ, D.W. and Near, J.P. (1983) Organizational citizenship behaviour: Its nature and antecedents. *Journal of Applied Psychology*, **68**, 653–663.

Van Dyne, L., Graham, J.W. and Dienesch, R.M. (1994) Organizational citizenship behaviour: Construct redefinition, measurement, and validation. *Academy of Management Journal*, **37**, 765–802.